REMARKS

This responds to the Office Action mailed on September 21, 2006. Claim 15 is amended. Claims 1-30 are pending in this application. Applicants do not admit that the cited references are prior art and reserve the right to "swear behind" each of the cited references as provided under 37 C.F.R. 1.131.

Claim Objections

The Office objected to claims 15 and 19. Applicant has amended claim 15 to supply the missing term between "cause the variable" and "loaded" as indicated in the Office Action at ¶3. Thus, this objection has been overcome.

The Office also objected to the phrase "passage of parameter." In particular, the Office indicated that this phrase "needs to be readjusted because the parameter is not actively passing but subject to a process that passes it, the process actually doing the passing; that is, 'passage of' should be 'passing of.' Office Action at ¶3. Applicant respectfully traverses this objection. Applicant agrees that the parameter is not actively passing. However, the word "passage" is defined as "the act or action of passing." Webster's 3rd New International Dictionary. Thus by definition, this phrase is defined as the process of passing of a parameter, as requested by the Office. Thus, such an amendment is not needed, and this objection has been overcome.

§*101 Rejection of the Claims*

Claims 1-6, 15-18, and 22-26 were rejected under 35 USC § 101 as being directed to non-statutory subject matter. In particular, the Office indicated that "[a]s a whole, the method amounts to internal working of computer execution and there is no reasonable conveying that by obtaining the result of this execution, some application is perceived as yielding a real-world concrete result, in terms of it being tangible, and useful." Office Action at ¶5. Applicant respectfully traverses this rejection under § 101.

As noted in the Patent Office Guidelines for Examination, "If the examiner determines that the claim does not entail the transformation of an article, then the examiner shall review the claim to determine if the claim provides a practical application that produces a useful, tangible and concrete result. In determining whether the claim is for a 'practical application,' **the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is 'useful, tangible and concrete.'**" AT&T, 172 F.3d at 1358-59, 50 USPQ2d at 1452. *Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility* (hereinafter, the "Guidelines"), pg. 20, October 2005. (emphasis added)

With respect to the claims 1-6, 15-18 and 22-26, it is respectfully noted that loading and accessing of a call stack during execution of an executable program is **useful**, i.e. "(i) specific, (ii) substantial and (iii) credible ..." [*Id.* at pg. 20] (e.g., manipulation of the call stack may allow for an increase in the speed of execution, as noted in the Application, and "[i]f the applicant has asserted that the claimed invention is useful for any particular practical purpose (i.e., it has a 'specific and substantial utility') and the assertion would be considered credible by a person of ordinary skill in the art, do not impose a rejection based on lack of utility." M.P.E.P. § 2107.I).

The claimed method is also **tangible**, since the loading and accessing of the call stack during program execution in a computer using the claimed methods provides "a real-world result" relative to the call stack. The claimed method is also **concrete**, since the results of the calculations are substantially repeatable. Therefore, claims 1-6 constitute patentable subject matter, and the rejection of these claims under 35 U.S.C. § 101 has been overcome. Based on the rationale for claims 1-6, the rejection of claims 15-18 and 22-26 has also been overcome.

§*112 Rejection of the Claims*

Claims 3, 17, and 24 were rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In particular, the Office indicated that "[c]laim 3 recites parameter from claim 1 not pushed into the stack 'as part of the call from first module to the second module'." Office Action at ¶7. The Office then indicated that the calling of procedure A pushes the parameters on the stack. Claims 17 and 24 were rejected under a similar rationale. Applicant respectfully traverses the rejection.

Applicant submits that this limitation is described as part of the call from the main procedure (first module) to procedure A (second module). Please see the following section of the detailed description:

> As shown, when the function "main" calls the function "A", neither the variable "x" nor the variable "y" (which are passed by implicit reference) are pushed onto the call stack 500. This is in contrast to conventional parameter passing (shown in Figure 2) wherein parameters passed by reference are pushed onto the call stack. Moreover, as described in more detail below in conjunction with Figure 6, the compiler 312, which generates the assembly code, does not generate instructions to load the parameters passed by implicit reference onto the call stack 314. Additionally, the compiler 312 modifies the instructions that reference (access) these variables. In particular, the compiler 312 causes the referencing using the base pointer for the called function at an offset on the call stack 314. The instructions generated by the compiler 312 are such that the variables are accessed on the call stack 314 at an offset from the base pointer for the called function to the copies of the variables pushed onto the call stack during the allocation by the calling function. While described with reference to accessing the variables based on an offset of the base pointer of the called function, embodiments of the invention are not so limited. In particular, the variables on the stack may be accessed based on other common references. For example, the variables on the stack may be accessed based on a common reference on the stack (e.g., the location of the base pointer of the calling function on the stack).

Application at page 9, lines 12-30.

Accordingly, Applicant respectfully submits this limitation was described in the specification in such a way as to enable one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Thus, Applicant respectfully submits that rejection of claims 3, 17 and 24 under 35 USC § 112, first paragraph, has been overcome.

Claims 7-21 and 27-29 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Office rejected claim 15 for lack of antecedent basis for the word "variable." Applicant has amended to provide proper antecedent basis. Further, the Office indicated that "[c]laim 7 recites compiled instructions do not include instruction to load the variable onto the stack, during execution, based on the call instruction (last paragraph)." Office Action at ¶9. The Office rejected claims 8-14, 16-21 and 27-29 under a similar rationale. In light of the remarks above regarding rejection of claims 3, 17 and 24 under 35 USC § 112, first paragraph, Applicant respectfully submits the rejection of claims 7-21 and 27-29 under 35 USC § 112, second paragraph, has been overcome.

§102 Rejection of the Claims

Claims 1-5, 7-11, 13-14, 19-25, and 27-30 were rejected under 35 USC § 102(a) as being anticipated by Tomasz Muldner, "C++ Programming with Design Pattern Revealed", http://www.cs.helsinki.fi/u/vihavain/s03/cpp/Muldner/c++Ch2.ppt Addison Wesley, Copyright 2002, pp.1-42 (hereinafter Muldner). Applicant respectfully traverses the rejection. Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991).

Claims 1-2 and 4-5

Among the differences, claim 1 recites "executing the second module that includes a third instruction that accesses the parameter on the stack based on an offset from a common reference for the second module." The Office indicated that Muldner does not show this limitation. Rather, the Office seems to rely on the Admitted Prior Art (APA) in the background section of the application. Applicant respectfully traverses the assertion that the APA discloses this limitation. In contrast, Figure 2 illustrates the variables (x, y, z) are pushed onto the stack. In particular, instructions 208-212 illustrate that variables (x, y, z) are loaded onto the call stack 200, respectively. The second module accesses these variables on the call stack. Please see background section at page 2, lines 17-26 regarding the accessing by the second module (function "B") of the variables on the call stack 200. Thus, the APA does not include an instruction for accessing any of the parameters based on an offset. Because the cited references do not disclose all of the claim limitations, Applicant respectfully submits that the rejection of claim 1 under 35 USC § 102 has been overcome. Because claims 2-6 depend from and further define claim 1, Applicant respectfully submits that the rejection of claims 2-6 under 35 USC § 102 has been overcome.

Claim 3

In addition to the remarks set forth above regarding claim 1, Applicant respectfully submits the following remarks. Among the differences claim 3 recites "wherein the parameter is not pushed onto the stack as part of the call from the first module to the second module." The Office indicated that this limitation is disclosed by Muldner "by virtue of claim 1 and APA (see Specifications, Figure 1) . . ." Office Action at ¶11. In particular, it appears that the Office seems to rely on the APA as disclosing this limitation. Applicant respectfully traverses this rejection. As set forth above regarding claim 1, APA relates to having the variables (x, y, z) pushed onto the call stack 200 a second time as part of the calling of function B by function A. Specifically, the variables (x, y, z) are pushed onto the call stack 200 at stack entries 202-206. The variables (x, y, z) are again pushed onto the call stack 200 at stack entries 208-212. This second time that the variables are pushed onto the call stack 200 is relative to the calling from the first module (function A) to the second module (function B). Thus, APA does not disclose that the parameter is not pushed onto the stack as part of the call from the first module to the second module. Applicant respectfully submits that the rejection of claim 3 under 35 USC § 102 has been overcome.

Claims 7-11 and 13-14

Among the differences, claim 7 recites "compiling the program code to generate compiled instructions, wherein the compiled instructions do not include a compiled instruction to load the variable onto a call stack, during execution, based on the call instruction." The Office indicated that this limitation is disclosed on the rationale for the rejection of claim 3. Based on the remarks set forth above, regarding claim 3, Applicant respectfully submits that the cited references do not disclose all of the limitations of claim 7. Applicant respectfully submits that the rejection of claim 7 under 35 USC § 102 has been overcome. Because claims 8-11 and 13-14 depend from and further define claim 7, Applicant respectfully submits that the rejection of claims 8-11 and 13-14 under 35 USC § 102 has been overcome.

Claims 19-21

Among the differences, claim 19 recites "wherein the assembly code instructions do not cause the variable to be pushed onto the call stack based on the second instruction." The Office indicated that this limitation is disclosed on the rationale for the rejection of claim 7. Based on the remarks set forth above, regarding claim 3, Applicant respectfully submits that the cited references do not disclose all of the limitations of claim 19. Applicant respectfully submits that the rejection of claim 19 under 35 USC § 102 has been overcome. Because claims 20-21 depend from and further define claim 19, Applicant respectfully submits that the rejection of claims 20-21 under 35 USC § 102 has been overcome.

Claims 22-25

Among the differences, claim 22 recites "executing the second module that includes a third instruction that accesses the parameter on the stack based on an offset from a common reference for the second module." The Office indicated that this limitation is disclosed on the rationale for the rejection of claim 1-5. Based on the remarks set forth above, regarding claims 1-5, Applicant respectfully submits that the cited references do not disclose all of the limitations of claim 22. Applicant respectfully submits that the rejection of claim 22 under 35 USC § 102 has been overcome. Because claims 23-25 depend from and further define claim 22, Applicant respectfully submits that the rejection of claims 23-25 under 35 USC § 102 has been overcome.

Claims 27-30

Among the differences, claim 27 recites "compiling the program code to generate compiled instructions, wherein the compiled instructions do not include a compiled instruction to load the variable onto a call stack, during execution, based on the call instruction." The Office indicated that this limitation is disclosed on the rationale for the rejection of claim 7-10. Based on the remarks set forth above, regarding claim 3, Applicant respectfully submits that the cited references do not disclose all of the limitations of claim 27. Applicant respectfully submits that the rejection of claim 27 under 35 USC § 102 has been overcome. Because claims 28-30 depend from and further define claim 27, Applicant respectfully submits that the rejection of claims 28-30 under 35 USC § 102 has been overcome.

§103 Rejection of the Claims

Claims 6, 12, 15-18, and 26 were rejected under 35 USC § 103(a) as being unpatentable over Muldner, "C++ Programming with Design Pattern Revealed", in view of R. Stallman, GNU CC, "Using and Porting GNC CC", <http://web.umr. edu/~gnudoc/split/egcs/gcc_toc.html> - Copywright 1988-1996 (hereinafter GNUCC - Part 1: Target Description Macros pp. 1-40; Part 2: Defining the Output Assembler Language, pp. 51-66). Applicant respectfully traverses the rejection.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). The M.P.E.P. contains explicit direction to the Examiner in accordance with the *In re Fine* court:

> In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

M.P.E.P. § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

No proper *prima facie* case of obviousness has been established because combining the references does not teach all of the limitations set forth in the claims.

With regard to claim 6, among the differences, claim 6 recites "wherein a second calling sequence comprises the first module, a fourth module and the second module, wherein executing the first module comprises padding the stack such that the number of entries on the call stack are the same for the first calling sequence and the second calling sequence." The Office indicated that this limitation is not disclosed by Muldner. "But C/C++ language includes freeing memory in view of leakage (citing as an example Stallman at page 30)." Office Action at ¶13. The Office then indicated "it would have been obvious for one skill (sic) in the art at the time the invention was made to pad unused stack memory based on passing by reference . . ." Office Action at ¶13. This section of Stallman relates to the padding of an argument with extra space during the passing of the argument in a function call. However, there is no disclosure or suggestion in the cited sections of Muldner or Stallman of padding the stack such that the entries in the calling stack are the same for two different calling sequences (as recited in claim 6). Thus, it appears that the Office is taking official notice of this limitation. Applicant respectfully objects to the taking of official notice since it would not have been obvious to include such a contingency, and pursuant to M.P.E.P. § 2144.03, Applicant traverses the assertion of official notice and requests that the Examiner cite a reference that teaches the missing elements. If the Examiner cannot cite a reference that teaches the missing elements, Applicant respectfully requests that the Examiner provide an affidavit that describes how the missing elements are present in the prior art. If the Examiner cannot cite a reference or provide an affidavit, Applicant requests withdrawal of the rejection and reconsideration and allowance of claim 6. Claims 12, 15-18, and 26 contain similar limitations. Thus, Applicant requests withdrawal of the rejection and reconsideration and allowance of claims 12, 15-18 and 26.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 371-2103) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexendria, VA 22313-1450 on this 8th day of December 2006.

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